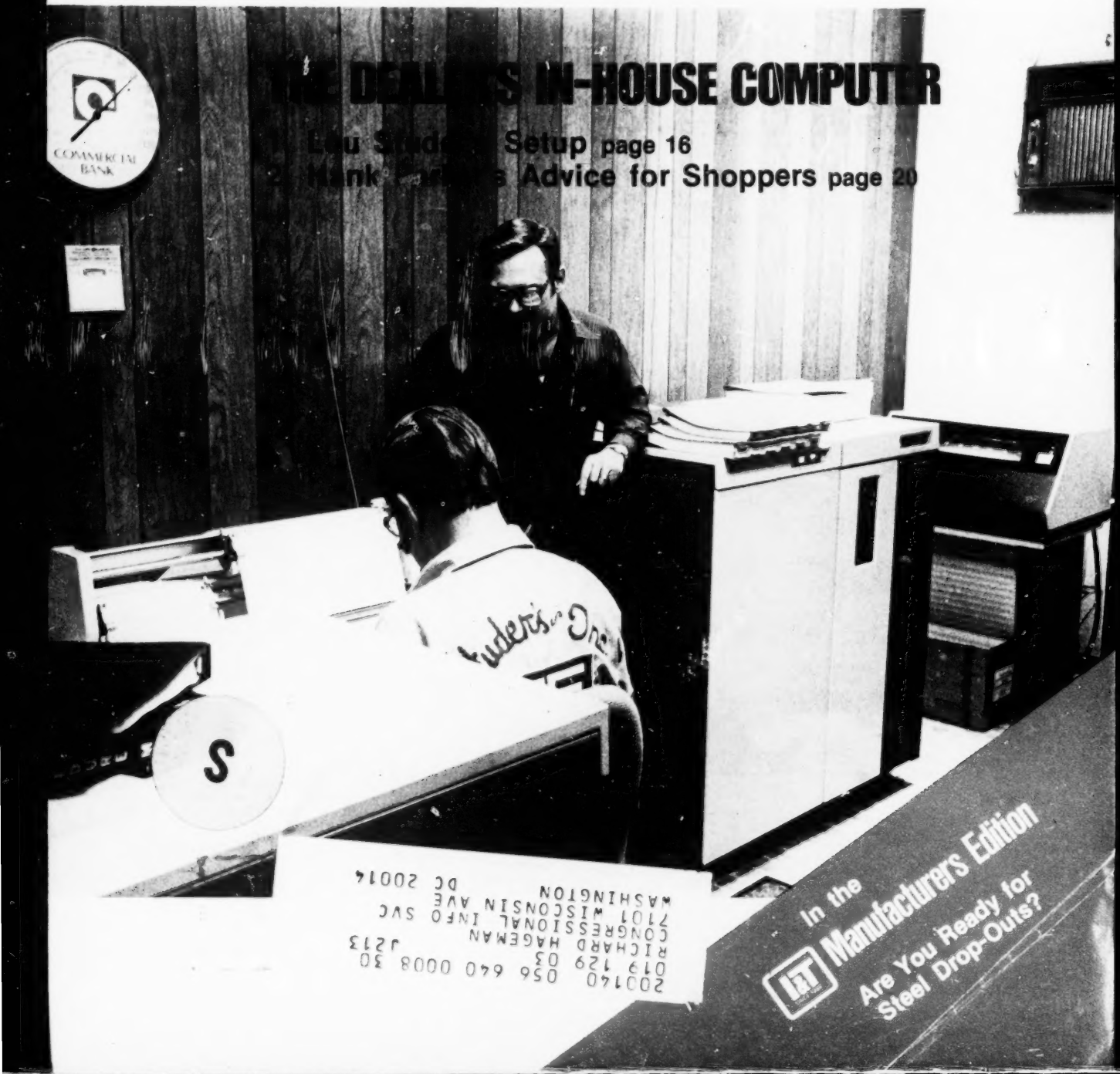
June 7, 1980
TWO DOLLARS

Serving the Farm and Industrial Equipment Industry Since 1886

Implement&Tractor



IHC DEALER'S IN-HOUSE COMPUTER

Lou S... Setup page 16

... Advice for Shoppers page 20

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(Regional advertising sales offices
listed on ad index page.)

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IMPLEMENT & TRACTOR (USPS 461-750) (with which is combined Farm Implement News) is published twice monthly except in January and March, when third issues are published, and in July and December, when one issue only is published, by INTERTEC PUBLISHING CORP., 9221 Quivira Rd., Overland Park, Ks. 66212 (a suburb of Kansas City, Mo.).

Subscription information: Implement & Tractor is edited for persons in the farm and industrial equipment industry who function in the areas of retail sales and service, distribution sales and service, marketing, engineering, financing, manufacturing and general management. Subscription prices to qualified subscribers: U.S. and Canada, one year—$10, two years—$15; elsewhere, one year—$13; two years—$21. Subscription prices to all others: U.S. and Canada, one year—$30; two years—$60; elsewhere, one year—$35, two years—$70. Single copies, $2, except Annual Statistical Number, $4; Product File issue, $5; Red Book issue, $5. Adjustment necessitated by subscription termination at single copy rate. Extra charges for service on back issues. Allow 6-8 weeks for change of address and new subscriptions.

INTERTEC PUBLISHING CORP.

June 7, 1980 • Vol. 95 • No. 13

Implement & Tractor

The Business Magazine of the Farm and Industrial Equipment Industry

in this issue...

Dealers and In-House Computers

16: **At Studer Super Service, the Computer Is Important, but....** This Wisconsin dealership spent years developing a system for gathering all necessary data for operations and management decision-making. Then it was a matter of finding the right software. The actual selection of the hardware was the easiest part for this marvelously profitable dealership.

20: **So You Want to Buy a Computer!** Hank Parker, widely known consultant for farm equipment dealers, has some advice for dealers who are thinking of getting their own, in-house computer.

8: **Massey-Ferguson's Tractor Olympics.** Seeking a heftier slice of the North American market for over-100-horsepower tractors, MF brought its dealer representatives to Scottsdale, Ariz., for sessions aimed at honing competitive selling skills against other brands.

32: **Why Wouldn't Farmers Pay More for Product Reliability?** Frank Buckingham, contributing editor on ag engineering subjects, suggests that farmers, and everyone else in the chain, already pay the price when the reliability isn't there.

DEPARTMENTS

What's Ahead 4
Auction Prices 24
What's New 27
News Briefs 29
New Literature 31
Recent Readings 34
Industry in Motion 34
Classified Ads 36
Index to Advertisers 38

Controlled circulation postage paid at Shawnee Mission, Ks. 66201.
Postmaster: Return Form 3579 to Implement & Tractor, P.O. Box 12901, Overland Park, Ks. 66212.

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what's ahead...

I&T SINCE 1886

June 7, 1980

RETAIL SALES OF FARM TRACTORS IN THE U.S. took a 47 per cent drop in the month of April, according to the flash report of the Farm & Industrial Equipment Institute.

Unit Retail Sales

Equipment	April 1980	April 1979	April Pct. Change	January-April 1980	January-April 1979	January-April Pct. Change
Farm Wheel Tractors						
2-wheel drive, 40-100 hp	5,358	8,973	-40.3	18,540	24,101	-23.1
Over 100 hp	4,131	9,571	-56.8	16,688	26,913	-38.0
Total 2-wheel drive	9,489	18,544	-48.8	35,228	51,014	-30.9
4-wheel drive	1,138	1,637	-30.5	3,501	3,707	- 5.6
Total Tractors	10,627	20,181	-47.3	38,729	54,721	-29.2
Combines, S-P	1,012	1,852	-45.4	4,667	5,100	- 8.5
Balers*	821	840	- 2.3	2,170	3,208	-32.4
Forage Harvesters	522	320	+63.1	1,522	1,154	+31.9
Mower-Conditioners	1,060	1,193	-11.1	3,251	4,266	-23.8

*Bales under 200 lbs. **Shear-bar type

EXPORTS OF FARM EQUIPMENT IN THE FIRST QUARTER were considerably better than domestic retail sales. Foreign sales increased 16 per cent to $611.7 million, according to Dept. of Commerce figures. The major customer, Canada, bought $276 million (up 12 per cent); other Western Hemisphere nations took $111 million. The only major customer showing a decline was Mexico, off 9 per cent at $44.4 million. Australia's imports from the U.S. came to $38 million, up 56 per cent; France--up 17 per cent at $33 million; United Kingdom--up 21 per cent at $20 million; Belgium--even at $26 million; West Germany--up 13 per cent at $22 million; Japan--off 2 per cent at $11 million; South Africa--up 54 per cent at $7.4 million; Israel --up 32 per cent at $5.8 million.

ENROLLMENTS IN COLLEGES OF AGRICULTURAL ENGINEERING have more than doubled in recent years, according to the American Society of Agricultural Engineers, and the numbers of graduates have climbed, too. According to Machine Design magazine, 619 received bachelor's degrees last year, the highest number in decades. The problem area has been in graduate students: Universities have been having to cope with budget squeezes, thus limiting the salary potentials of teaching engineers. Industry, meanwhile, has been offering attractive salaries to graduates. Will the current downturn in the farm equipment business cut the number and attractiveness of job openings for graduates and raise interest in graduate studies and academic careers? Past experience indicates this is likely, but it hasn't begun happening yet.

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AUCTION PRICES OF USED EQUIPMENT

An exclusive I&T monthly report of actual prices paid recently at these leading national wholesale auctions.

Asterisk beside tractor price indicates highest bid offered on tractors which were not sold.

BILL ENLOW TRACTOR SALES
Tulsa, Okla.
(March 8, 1980)

ALLIS-CHALMERS TRACTORS

HD5 dozer, diesel, 1956 (Good) 3850
190XT diesel, 1967 (Rough) 2500*

CASE TRACTORS

800, 1958 (Good) 1450
885, 1979 (Excellent) 6100*
1030 diesel, 1964 (Good) 2850
1030 diesel, 1966 (Good) 2900*
1070 diesel, 1968 (Good) 5700
1170 diesel, 1971 (Good) 6500

DAVID BROWN TRACTOR

990 diesel, 1964 (Good) 2300

DEUTZ TRACTOR

D10006 diesel, (Good) 2925

FERGUSON TRACTORS

30, 1952 (Fair) 875
30, 1953 (Good) 1175
30, 1953 (Good) 1350
30, 1954 (Good) 1360
40, 1958 (Fair) 1400*

FORD TRACTORS

9N, 1942 (Fair) 850
9N, 1944 (Fair) 750
9N, 1944 (Good) 900
9N, 1945 (Good) 950
9N, 1946 (Good) 975
9N, 1946 (Good) 1375
8N, 1948 (Rough) 725
8N, 1948 (Good) 1175
8N, 1948 (Good) 1110
8N, 1949 (Good) 1250*
8N, 1949 (Good) 1090*
8N, 1949 (Good) 1220*
8N, 1949 (Good) 1200
8N, 1949 (Good) 1000
8N, 1950 (Good) 1100
8N, 1950 (Fair) 930
8N, 1950 (Good) 1350*
8N, 1951 (Good) 1500
8N, 1951 (Good) 1375
8N, 1951 (Good) 1300
8N, 1951 (Good) 1400
8N, 1951 (Good) 1600
8N, 1952 (Good) 1600
8N, 1952 (Good) 1500
8N, 1952 (Good) 1675
8N, 1952 (Good) 1450
NAA, Idr., 1953 (Good) 1905*
NAA, 1953 (Fair) 1400
NAA, Idr., 1953 (Fair) 1650
NAA, 1953 (Good) 1600
NAA, 1953 (Good) 2050*
NAA, 1953 (Good) 2200*
NAA, 1953 (Good) 1750
NAA, 1953 (Good) 1950
NAA, 1953 (Good) 1850
NAA, Idr., 1953 (Fair) 1725
600, 1954 (Fair) 1600
600, 1955 (Good) 1890*
600, 1955 (Good) 2100
600, 1956 (Fair) 1700*
601, 1957 (Good) 2300
601, 1958 (Good) 2650
800, 1954 (Good) 2700
860, 1955 (Rough) 1500
860, 1956 (Good) 1900
860 diesel, 1956 (Good) 2850
801, 1957 (Good) 2450*
861, 1957 (Good) 1975
900, 1955 (Good) 1550
901 diesel, Select-O-Speed, 1956 (Good) 1100*
2000 diesel, 1974 (Good) 3950*
3000 diesel, 1965 (Good) 3000
3000 diesel, 1970 (Good) 3450
4000 diesel, 1964 (Fair) 3000
4000 diesel, 1964 (Good) 3300*
4000 diesel, 1965 (Good) 3500*
4000 diesel, 1966 (Good) 3460*
4000 diesel, 1966 (Fair) 3350
4000 diesel, 1967 (Good) 3450
4000 diesel, 1968 (Good) 3900*
4000 diesel, 1969 (Fair) 3050*
4500 diesel, backhoe, 1972 (Good) 5450*
5000 diesel, 1964 (Fair) 3400
5000 diesel, 1965 (Good) 3600*
5000 diesel, 1965 (Good) 3800*
5000 diesel, 1967 (Good) 4050
5000 diesel, 1969 (Good) 4800*
5000 diesel, 1972 (Good) 5350*
5000 diesel, 1973 (Good) 5200*
5000 diesel, 1973 (Fair) 4600
8000 diesel, 1969 (Good) 4800
9600 diesel, 1976 (Good) 10,600

INTERNATIONAL HARVESTER TRACTORS

Cub, 1955 (Good) 800
Cub Loboy, 1967 (Good) 1760
C, 1957 (Good) 400*
Super C, 1959 (Good) 675
TD-6, crawler, 1958 (Fair) 3150
300, Idr., 1957 (Fair) 1050*

(More...)

Auctions

(continued)

3414, backhoe, 1966 (Good) 3400*
140, 1968 (Good) 1875
B414 diesel, 1957 (Good) 1800
574 diesel, 1974 (Good) 5000
560 diesel, 1959 (Good) 1250*

JOHN DEERE TRACTORS

M, 1955 (Good) 1450
70 LP, 1956 (Good) 1200
1010 diesel, 1964 (Good) 2700
1010 diesel, 1966 (Good) 2700
2010, 1965 (Good) 2250
2010 diesel, 1967 (Good) 2750
2030 diesel, 1975 (Good) 6000*
3010 diesel, 1967 (Good) 4650
4020 diesel, 1965 (Good) 4900
4020 diesel, 1969 (Good) 6500
4020 diesel, 1969 (Good) 5700

LONG TRACTORS

350 diesel, 1970 (Good) 3300
440 diesel, 1969 (Good) 3250

MASSEY-HARRIS TRACTORS

22, 1953 (Good) 360
444, LP, 1956 (Good) 550*

MASSEY-FERGUSON TRACTORS

35 diesel, 1958 (Rough) 1500
35, 1958 (Fair) 1590*
35, 1959 (Good) 1750
35 diesel, 1960 (Good) 1950*
35, 1960 (Fair) 1600
35 diesel, 1962 (Good) 2150*
35, 1963 (Rough) 1500
35 diesel, 1964 (Good) 2738
50 diesel, 1962 (Good) 2100*
65 diesel, 1960 (Good) 1950*
65 diesel, 1960 (Fair) 1700
65, 1961 (Good) 1850*
65, 1961 (Fair) 1700
65 diesel, 1962 (Fair) 1775
65, 1962 (Good) 1900
65, ldr., 1962 (Fair) 1850
65 diesel, 1962 (Good) 2150*
65 diesel, ldr., 1962 (Fair) 1900
65 diesel, 1963 (Good) 2350
65 diesel, 1963 (Good) 2350
65, 1963 (Good) 2400
65 diesel, 1963 (Good) 2550
65 diesel, 1964 (Good) 2500
65 diesel, 1964 (Good) 2450*
65 diesel, 1964 (Good) 2500
65 diesel, 1964 (Good) 2650
65 diesel, ldr., 1964 (Good) 3250
65 diesel, ldr., 1964 (Excellent) 3650
88 LP, 1959 (Fair) 480*
135, 1965 (Good) 3000
135, 1966 (Good) 3100*
135 diesel, 1969 (Good) 3650
135 diesel, 1971 (Good) 3900
150, 1968 (Good) 2650*
150 diesel, 1969 (Good) 3150
165 diesel, 1965 (Rough) 1810
165 diesel, 1966 (Fair) 2850
165 diesel, 1966 (Fair) 3050
165 diesel, 1967 (Good) 3300
165 diesel, 1968 (Fair) 3150*
165 diesel, 1969 (Good) 3750
165 diesel, 1969 (Good) 4050
165 diesel, 1970 (Good) 4150
165 diesel, ldr., 1970 (Good) ... 4350
175 diesel, 1966 (Good) 4050
175 diesel, 1967 (Good) 3900*
175 diesel, 1969 (Good) 4500
175 diesel, 1971 (Good) 4950
180 diesel, 1965 (Fair) 2825
180 diesel, 1968 (Good) 3600*
180 diesel, 1968 (Good) 3800
202, ldr., 1967 (Good) 2150*
203, 1969 (Good) 2225
205 diesel, 4-W-D, 1980 (New) 5200*
20, backhoe, 1973 (Good) 5500
1100 diesel, 1968 (Fair) 3900*
230 diesel, 1979 (New) 6150*
230 diesel, 1979 (New) 6200*
245 diesel, 8-speed, 1979 (New) 7100*
255 diesel, 1977 (Good) 5750

MINNEAPOLIS-MOLINE TRACTORS

705 diesel, 1967 (Good) 3000*
G1000 diesel, 1968 (Good) 3600*

OLIVER TRACTORS

550 diesel, 1963 (Good) 1200
1800 LP, 1967 (Fair) 2650*

NOTES
Prices reported are for individual sales at wholesale on "as is," "cash and carry" basis.
Prices reported are NOT averages.

Condition classifications: EXCELLENT means—Engine: in perfect condition, 400 to 600 hours of use; Rubber: 80% tread remaining, no breaks or cracks; Paint: original and bright; General Appearance: excellent.

GOOD means—Engine: good running condition; Rubber: 70% tread remaining, no breaks or cracks; Paint: original paint or a good repaint job; General Appearance: good over-all.

FAIR means—Engine: possibly in need of a minor overhaul to restore; Rubber: 60% tread remaining, some cracking evident in side walls; Paint: only fair, weathered and some rust apparent; General Appearance: worn, some dents, minor parts such as gage covers missing or broken.

ROUGH means—Engine: obviously in need of a major overhaul; Rubber: smooth; Paint: scarred, weathered, rusty, needs painting urgently; General Appearance: dents, ruptures, broken parts, loose wires, some components such as lights broken, missing or inoperative.

DEMONSTRATOR means—used for demonstrating only and in practically new condition.

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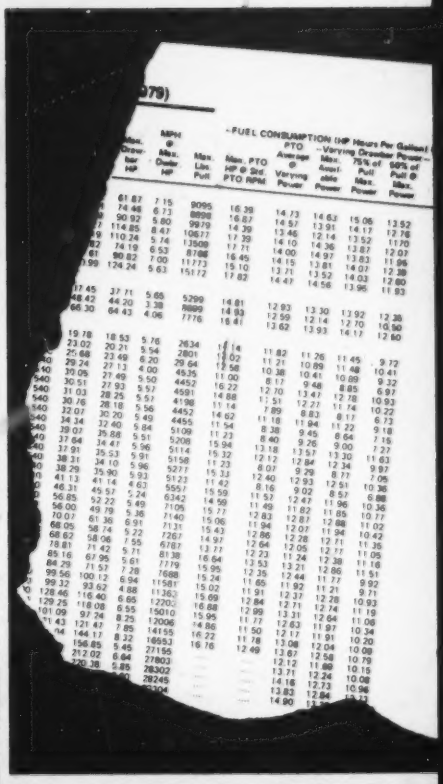
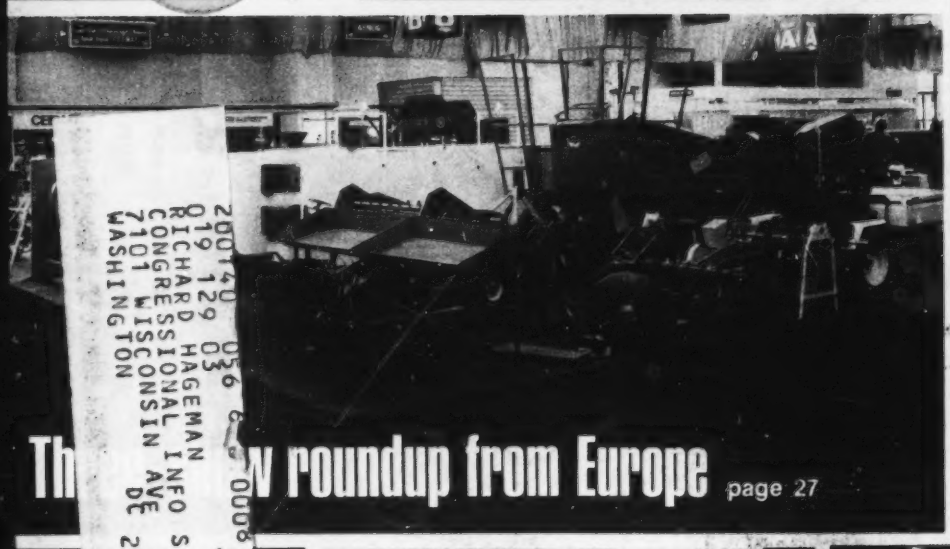
June 21, 1980
TWO DOLLARS

Serving the Farm and Industrial Equipment Industry Since 1886

Implement&Tractor





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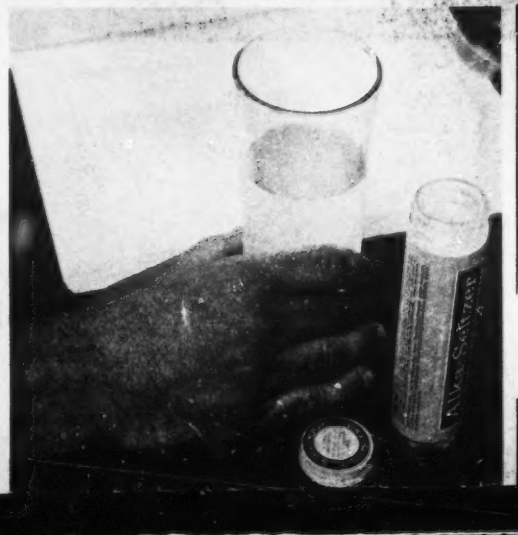

Return of the lease! page 6

June 21, 1980 • Vol. 95 • No. 14

Implement & Tractor

The Business Magazine of the Farm and Industrial Equipment Industry

in this issue...

6: Return of the Lease! As severe shortages of cash and credit hit U.S. agriculture, while farming operations move into higher tax brackets, the attractiveness of leasing has re-established itself. Here's what some manufacturers' finance executives and busy dealers have to say about the present situation.

12: Some Tips for Selling High-Pressure Washers. Farmers are considered by many marketers of this type of product to be a great, untapped market. Here's some merchandising advice, plus a list of who makes them.

16: Second Sales Forecast Takes a Nosedive. FIEI's Marketing & Management conference meets at the U. of Michigan to behold a "State of the Industry" consensus outlook report that runs far below the expectations of last January.

27: Rounding Up Three European Shows. A few of the many new products seen at the Amsterdam, Paris and Zaragoza (Spain) shows.

DEPARTMENTS

What's Ahead	4	News Briefs	30
Industry in Motion	20	Classified Ads	32
Auction Prices	21	Index to Advertisers	34
What's New	24		

Controlled circulation postage paid at Shawnee Mission, Ks. 66201.
Postmaster: Return Form 3579 to Implement & Tractor, P.O. Box 12901, Overland Park, Ks. 66212.

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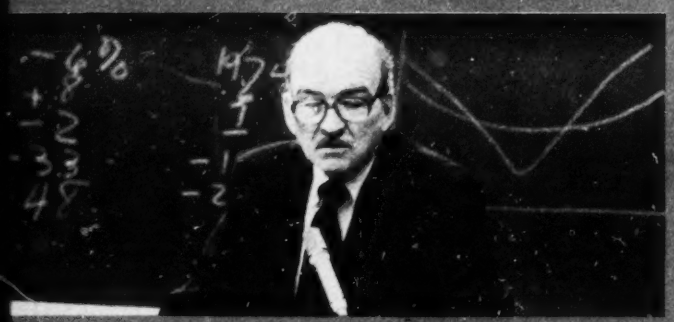
Marketing & Management Conference:

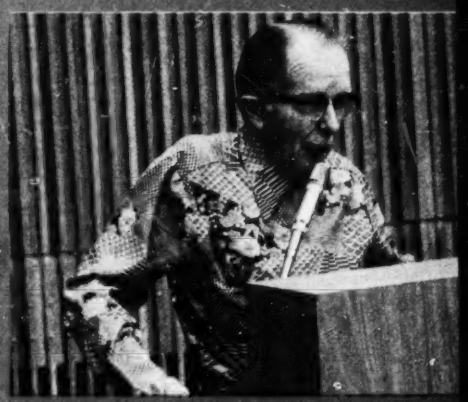
REVISED SALES OUTLOOK TAKES A NOSEDIVE

By Bill Fogarty

In case you hadn't heard, the industry's prospects for 1980 look much worse than they did in January, when the FIEI's marketers last got together for a forecasting session.

For the first time, FIEI held its Marketing & Management Conference on a university campus. The U. of Michigan's Graduate School of Business Administration brought in lecturers on a variety of topics.





Media and Expectations

William Porter, professor of journalism, talked about how media shape expectations. "Media," he said, "has created expectations relative to food production. There is the assumption that there is something sinister about that ill-defined unit of production called agribusiness which threatens a way of life called the family farm....I'm skeptical about media expectations that there could never be a cataclysmic crop failure and that agricultural chemicals are per se poisonous, though I detect a strong feeling about the latter in the press.

"When Norman Borlaug won the Nobel prize for his work that increased crop yields, his speech included the comment that those who want to ban pesticides are fools. His speech was largely ignored by the media, not because of any conspiracy but because what he said didn't jibe with what was expected....The bottom line of all this is—Don't expect much from the media. There is no magic public relations formula..."

Bert Head (Ford Tractor) functioned as program chairman of the conference and also reported on the "State of the Industry" consensus sales forecast.

■WAS THE May consensus forecast of unit sales, conducted by the Farm & Industrial Equipment Institute, particularly depressing? Following recent sales reports covering the first four months of 1980, certain aspects of the forecast have to be considered more puzzling than depressing.

After all, when the industry records a drop of 47 per cent in retail unit sales of tractors, which is what happened in April, there's probably not much left in the way of buoyant spirits that a dismal forecast could further depress.

Here's what's puzzling: After seeing what happened to tractor sales in April, the tractor manufacturers' forecasters, given another shot at estimating total unit sales for 1980, predicted that the total unit volume for the year would decline 10.7 per cent from 1979's level of 188,287 to 168,050 tractors. (In January, they were predicting a drop of 1.3 per cent.)

This means that to reach a sales level that amounts to a decline of 10.7 per cent, volume will have to be pretty strong in the last eight months of 1980. Conditions being what they are, can this industry average 16,165 tractor sales a month, May Day through New Year's Eve?

On a dollar basis, the group is forecasting a decline in dollar volume of farm equipment retail sales of 5 per cent. Forty-eight manufacturers of field equipment participated in this consensus prediction, and the spread of opinion ran from minus 25 to plus 19 per cent.

Taking a quick look at the ranges of opinion about various products' sales prospects, it becomes apparent that some manufacturers, or their marketing executives responsible for anticipating what the market will be like, have sharply overestimated what the industry will end up doing the rest of this year. As a result, some product forecasts may be distorted. (If the same overoptimistic forecasts are cranked into individual companies' marketing operations, grief for some could be severely compounded

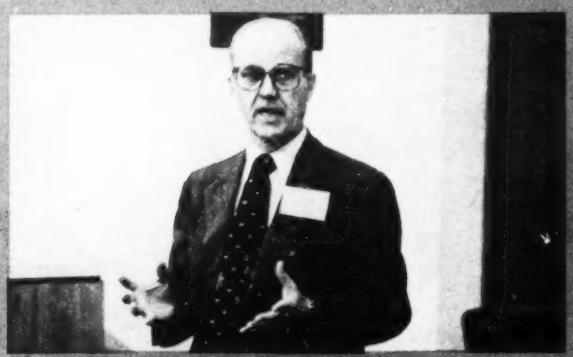
(More...)

Viewing the Economy

Dr. Paul McCracken, speaking on the general condition of the U.S. economy: "Our rate of increase of real gross national product per worker has been rising more slowly than that of any other country. What's wrong, what's producing this arthritis? For one thing, we have been generating too little technology, with a declining percentage of GNP going into research and development. If we'd kept up with R&D levels of the mid-1960's, we'd be doing about a third more R&D now than we are. And the technology is being cranked into the economy at too slow a rate; ours is a low-investment economy compared with the rest of the world.

"Two factors on the plus side: The Federal Reserve is trying to manage monetary policy by monetary aggregate rather than by interest rates, and thus we are seeing dramatic declines in interest rates. And U.S. exports remain strong."

Question: "Do you see us getting legislative relief on capital costs?" **McCracken:** "Yes. I'd like them to attach an index to depreciation schedules. I'd guess we'll get a shortening of depreciation schedules. Soon? Well, it could happen this year. If not, then more likely during the 1981-82 U.S. Congress."



Product Innovation

Merle Crawford, professor of marketing, talked about the strategies which the leadership of a company (or "strategic business unit") must put into place to assure a flow of product innovation. "How innovative is your industry?" he asked. "Are its products highly advertisable? Is there considerable personnel turnover, which is associated with a creative industry? Are product life cycles short? (Long cycles denote low innovation rates.) A new product failure rate of less than 25 per cent is not innovative. Do new companies emerge as leaders? Are salesmen welcomed (showing an openness to new ideas)?"

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U.S. RETAIL SALES, 1980 CONSENSUS FORECAST, SECOND TIME AROUND

Product	Actual 1979 Sales	Jan., 1980 Forecast	May 1980 Forecast	Pct. Change*
Farm Tractors				
30 hp and under	41,850	41,700	38,650	- 7.9
30-99 hp	72,477	71,800	65,100	-10.2
100 hp and over	62,538	66,000	54,000	-13.6
4-Wheel Drive	11,485	11,800	10,250	-10.5
Total Farm Tractors	188,287	190,000	168,050	-10.7
Combines	32,246	31,500	30,325	- 6.0
Cornheads	22,374	21,000	20,750	- 7.3
Moldboard Plows	31,747	31,500	28,500	-10.2
Disk Harrows	63,316	63,250	58,000	- 8.4
Field Cultivators	19,861	20,600	16,000	- 5.6
[illegible]	16,345	19,000	15,000	- 2.3
Balers (under 200 lbs.)	18,750	17,600	16,300	-13.1
Balers (over 200 lbs.)	21,351	22,500	20,000	- 6.3
Forage Harvesters	12,451	12,250	11,650	- 6.4
Mower-Conditioners	25,600	25,000	23,000	- 9.4
Windrowers/Swathers	8,918	8,400	8,550	- 4.1
Grinder-Mixers	11,673	11,300	9,750	-16.5
Cotton Strippers	1,774	1,800	1,850	+ 4.3
Manure Spreaders**	19,107	19,500	17,750	- 7.1

*Percentage figures are given as medians—the approximate mid-point in the range of estimates.
**Box-type only.

by the end of the year.)

Here are some examples:

Four-wheel-drive tractors: Eight of 13 companies see sales off from 8 to 30 per cent, centering on about 12 per cent, but two companies are predicting an industry increase of 8 to 10 per cent. Consensus, a median figure, is for a decline of 10.5 per cent.

Field cultivators: Consensus is down 5.6 per cent; 14 firms see a decline of from 1 to 20 per cent, but one sees the market up 6 per cent, another up 12 per cent!

Big balers: Consensus—down 6.3 per cent. One marketer sees a 26 per cent drop; another looks for a 12 per cent increase!

Forage harvesters: Consensus—down 6.4 per cent. Seven of eight forecasters see drops of from 2 to 12 per cent, while one optimist looks for a rise of 11 per cent.

Grinder-mixers: Consensus—down 16.5 per cent. Seven firms see sales off from 14 to 23 per cent; the eighth participant sees a one per cent increase.

Among the forecasters of the Agri-Equipment Div. of FIEI, there are also vast spreads in opinion about the market outlook. The consensus among 35 participants is for a 12 per cent decline in dollar volume, ranging from a decline of 40 per cent (one estimate) to an increase of 10 per cent (two).

Examples of the diversity:

Augers and elevators: Consensus—off 15 per cent, with a range of from down 50 to up 10 per cent.

Farmstead equipment (for hogs): Consensus—down 30 per cent; 13 out of 14 see it down from 12 to 50 per cent, but one sees a 10 per cent increase.

Farmstead equipment (dairy/beef): Consensus—no change; the range is from down 10 to up 12 per cent.

Is anything upbeat?

In one product area, things are looking better than they did in January. Cotton stripper sales, which came to 1,774 units in 1979, were expected to be off 8.6 per cent when estimates were made last winter, but an improved cotton market has moved four makers of this equipment to come up with a consensus forecast of a 4.3 per cent increase to 1,850 units. One pessimist sees a 10 per cent decline; the other three anticipate hikes of from 2 to 10 per cent.

Conference program

The consensus forecast was reported as the kickoff feature of the FIEI's Marketing & Management Conference May 22-23 at the U. of Michigan at Ann Arbor. Besides delivering the forecast report, H. J. Head (Ford Tractor) also functioned as program chairman.

Under this arrangement, the university's Graduate School of Business Administration brought in leading educators from several departments on the campus to address the group.

Most widely known of the speakers was Dr. Paul McCracken, who is a past chairman of the Council of Economic Advisors and who has served as a consultant to three presidents of the United States. Talking about the U.S. economy, he indicated that the low point of the present recession would probably be in the fourth quarter of 1980.

Others on the program included William E. Porter, chairman of the university's department of journalism; C. Merle Crawford, professor of marketing; Thomas A. Roach, an attorney and a member of the university's board of regents; Warren E. Miller, professor of political science; James D. Papsdorf, associate chairman of the department of psychology; Bernard J. White, associate professor of organizational behavior and industrial relations; and Gilbert R. Whitaker, Jr., dean of the school of business administration.

Other FIEI activities

Next major meeting of the Farm & Industrial Equipment Institute is its annual convention Oct. 11-14 at Boca Raton, Fla. Marketing & Management Conferences next year will be Jan. 29-31 at Ft. Lauderdale, Fla., and May 20-22 at Springfield, Ill. □

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AUCTION PRICES OF USED EQUIPMENT

An exclusive I&T monthly report of actual prices paid recently at these leading national wholesale auctions.

Asterisk beside tractor price indicates highest bid offered on tractors which were not sold.

JONES FARM EQUIPMENT CO. Dothan, Alabama (May 13, 1980)

ALLIS-CHALMERS TRACTORS
7060 diesel, 1975 (Fair).....5700
7040 diesel, 1979 (Excellent).....16,000*
7000 diesel, 1976 (Good).....6900*
5050 diesel, 1979 (Excellent)...5300*

CASE TRACTORS
930 diesel, 1961 (Fair).....1000
550, trencher, bld., (Good).....4000*
DC, ldr., 1949 (Fair).....250*

DAVID BROWN TRACTORS
995 diesel, 1975 (Good).....3100*
990 diesel, 1970 (Good).....1800*
990 diesel, 1970 (Excellent)....2900*

MASSEY-FERGUSON TRACTORS
2500 fork lift, 1972 (Good).....4700*
1130 diesel, 1972 (Good).....4000
285 diesel, 1976 (Good).....7000
265 diesel, 1975 (Good).....6100*
245 diesel, 1976 (Good).....4400
235 diesel, 1975 (Good).....3600
230 diesel, 1979 (Excellent)....5500*
205, diesel, 1979 (Excellent)...3000*
180 diesel, 1967 (Good).....3000*
175 diesel, 1971 (Fair).....3500*
175 diesel, 1968 (Good).....3050
165 diesel, 1972 (Fair).....3600*
165 diesel, 1970 (Fair).....3400
165 diesel, 1969 (Good).....3000*
165 diesel, 1968 (Good).....2900*
165 diesel, 1967 (Good).....3100*
165 diesel, 1967 (Good).....3450
165 diesel, 1967 (Rough).....2375
165 diesel, 1967 (Good).....3100*
165 diesel, 1967 (Good).....3300
150 diesel, 1969 (Good).....2500*
135, 1970 (Good).....3200
135 diesel, 1967 (Good).....3300*
135, 1966 (Good).....3150
135 diesel, 1966 (Good).....2700*
Sup. 90 diesel, 1963 (Fair).....900
Sup. 90 diesel, 1962 (Fair).....1000
65 diesel, 1963 (Good).....2100*
65 diesel, 1962 (Good).....1800*
50 LP, 1958 (Fair).....1350
35, 1963 (Good).....1500*
35, 1963 (Fair).....1650
35 diesel, 1962 (Good).....1850
35 diesel, 1962 (Good).....1825*
35 diesel, 1960 (Fair).....1600
35, 1959 (Fair).....1550*
35, 1955 (Fair).....1300*
35, 1955 (Fair).....1200
35, 1955 (Fair).....1200*
T030, 1953 (Good).....1300
T020, 1949 (Fair).....725
TE20, 1948 (Good).....900

FORD-FERGUSON TRACTOR
9N, 1946 (Rough).....525

FORD TRACTORS
9600 diesel, cab, 1976 (Good).....6000*
5000 diesel, 1973 (Good).....5000
5000 diesel, 1966 (Rough).....1750*
4500 diesel, ldr., backhoe, 1971 (Good).....4200*
4500 diesel, 1970 (Fair).....2900*
4000 diesel, 1971 (Good).....4200
4000 diesel, 1970 (Good).....4000*
3000 diesel, 1970 (Good).....2750
3000 diesel, 1969 (Good).....2800*
3000 diesel, 1969 (Good).....2850
3000 diesel, 1968 (Good).....3200*
3000 diesel, 1967 (Good).....2600
2000 diesel, 1969 (Good).....3000*
861, 1961 (Excellent).....2500
850, 1955 (Good).....1750*
841 diesel, 1958 (Good).....1650*
841, 1958 (Good).....1650
641, 1960 (Good).....1700*
641, 1958 (Good).....1700*
640, 1956 (Excellent).....2100*
640, 1955 (Good).....1500*
640, ldr., 1955 (Good).....2250
541, 1958 (Good).....1625
NAA, 1954 (Fair).....1100
Jub., 1953 (Fair).....1250*
Jub, 1953 (Fair).....1250
Jub., 1953 (Good).....1500
8N, 1952 (Excellent).....1700*
8N, 1951 (Good).....1550
8N, 1951 (Good).....1650
8N, 1949 (Good).....975
8N, 1948 (Rough).....325
8N, 1948 (Good).....950
8N, 1948 (Good).....900*

INTERNATIONAL HARVESTER TRACTORS
3300 B, ldr., (Fair).....925
856 diesel, 1969 (Good).....4300*
706 diesel, 1967 (Fair).....3100*

(More...)

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Auctions *(continued)*

664 diesel, 1975 (Good) 3400*
664 diesel, 1972 (Excellent) 4600*
656 diesel, 1966 (Fair).....3200
574 diesel, 1973 (Fair).....2150
574 diesel, 1971 (Good) 3500*
574 diesel, 1970 (Good) 3200*
544 diesel, 1970 (Fair).....2100*
544 diesel, 1969 (Good) 3100*
544 diesel, 1969 (Rough) 1500
504 diesel, 1968 (Fair).....1300*
464 diesel, 1974 (Fair).....1700
460 diesel, 1959 (Good) 1400*
454 diesel, 1971 (Good) 3000*
424 diesel, 1965 (Good) 1650
364 diesel, 1976 (Good) 3200*
354 diesel, 1976 (Good) 2850*
354 diesel, 1976 (Rough) 1300
C, 1950 (Good).....400
Sup. A, cult., 1949 (Good).....1425
140, 1972 (Good) 1425
154 Cub, mo., 1969 (Excellent).....2050
Cub, 1950 (Good).....1050
Cub, cult., plt, plow, har., 1949 (Good) 1375
Cub, mo., 1948 (Fair) 600
B, (Fair).....225

JOHN DEERE TRACTORS

4020 diesel, 1971 (Good) 6700
4020 diesel, 1967 (Good) 5000
4020 diesel, 1965 (Good) 4600*
4020 diesel, 1965 (Good) 4500*
4000 diesel, 1969 (Good) 6100*
3020 diesel, 1967 (Rough) 2500
3010 diesel, 1962 (Good) 3350
3010 diesel, 1962 (Good) 3200
3010 diesel, standard, 1962 (Fair).....1500*
2640 diesel, 1976 (Good).....5900*
2640 diesel, 1976 (Excellent) ...6400*
2030 diesel, 1974 (Good) 4850
2030 diesel, 1974 (Fair).....3900*
1020 diesel, 1968 (Good) 2150
420, 1957 (Good) 875
40, 1953 (Good) 875

LONG TRACTORS

1110 diesel, 1976 (Good) 4000
445 diesel, ldr., (Good).....1700*

MINNEAPOLIS-MOLINE TRACTORS

900 diesel, ldr., backhoe, 1968 (Good) 2500
M670 diesel, 1966 (Fair) 1350

OLIVER TRACTOR

55 diesel, ldr., 1955 (Rough) 625

YODER & FREY, INC.
Archbold, Ohio
(May 12 & 13, 1980)

ALLIS-CHALMERS TRACTORS

7030 diesel, 1974 (Fair) 11,000
7030 diesel, 1974 (Rough) 9000*
220, duals, ...6000
220 diesel, 1970 (Rough) 5250*
200 diesel, 1974 (Good) 8200*
200 diesel, 1970 (Good) 8000
XT190 diesel, 1968 (Good) 5800*
XT190, 1965 (Fair) 4300*
180 diesel, 1968 (Good) 5900
160 diesel, ldr., 1968 (Fair) 2300
160 diesel, 1967 (Rough) 2100*
D21, 1967 (Fair) 5250*
D19, 1962 (Fair) 1600*
D17 diesel, 1962 (Fair) 1400*
D15, 1967 (Good).....1725
D15, 1961 (Fair) 1650
D10, 1960 (Fair) 850
WD45, 1953 (Fair) 900*
WD, 1953 (Rough) 530
G, plow, cult., 1955 (Fair) 770
C, 1954 (Rough).....425

CASE TRACTORS

1070 diesel, 1970 (Fair).....6900*
1030 diesel, 1966 (Rough) 3200*
930, 1965 (Good) 4100*
800 diesel, 1959 (Rough) 825
530, forklift, ...2900
450, crawler, ...4500

COCKSHUTT TRACTORS

550, 1958 (Rough) 800
540, 1958 (Fair).....910

DAVID BROWN TRACTORS

1200 diesel, 1961 (Fair).....2000
990, 1961 (Fair).....2750
900, 1957 (Fair).....810

JOHN DEERE TRACTORS

4440 diesel, 1979 (Excellent) .25,000*
4320 diesel, 1972 (Good).....10,000*
4020 diesel, 1969 (Fair).....7400
4020 diesel, 1969 (Fair).....7100
4020 diesel, 1966 (Good) 7000
4020 diesel, 1967 (Fair).....6500*
4020 diesel, 1965 (Good) 6700*
4020, 1965 (Fair).....4250
4020, 1965 (Fair).....4200*
4010 diesel, 1961 (Fair).....4750*
4010 diesel, 1962 (Fair).....4550
4000 diesel, 1970 (Fair).....6525
3020 diesel, 1967 (Fair).....6100*
3020 diesel, 1965 (Fair).....3700
3020 diesel, 1964 (Fair).....3750*
3020, 1964 (Fair).....3000*
3020 diesel, 1964 (Good) 4500
3010 diesel, 1961 (Fair).....3750*
3010 diesel, 1961 (Fair).....3100
2510, 1966 (Fair).....3400*
2510, 1966 (Rough) 2750*
2020, ldr., 1966 (Fair) 4125
2010, 1962 (Fair).....2225
1020, 1967 (Good) 3000*
1010, ldr., ...1750
450, crawler, ldr., ...6100
730, 1960 (Fair).....2200
730, 1960 (Fair).....1850
730 diesel, 1959 (Good) 2275
730 diesel, 1959 (Fair).....2100
720 diesel, 1957 (Fair).....1600
720 diesel, 1956 (Rough) 1110
720 diesel, 1956 (Rough) 1050
630, 1959 (Good) 2550
630, 1958 (Fair).....1850
530, 1959 (Good) 1900
520, 1956 (Fair).....1450
80 diesel, 1956 (Good) 1500
70 diesel, 1957 (Good) 1100
70 diesel, 1956 (Fair).....1000
70, 1955 (Good) 985
70, 1954 (Rough) 975
50, 1957 (Fair).....975
G, 1946 (Rough).....500*
B, 3-pt. hitch, 1946 (Good) 800

FORD TRACTORS

8600 diesel, 1975 (Fair).....8000
5000, 1970 (Good) 3870
5000, 1969 (Good) 4400*
4500, backhoe, ldr., (Fair) 5250*
4500, backhoe, ldr., (Rough) ...4400*
3000, 1968 (Fair).....2500*
2000, 1961 (Fair).....2025
900, 1954 (Rough) 1000*
900, 1957 (Rough) 910
860, ldr., 1954 (Fair) 2150
Jub., 1953 (Good) 1325
8N, 1952 (Good).....1625

Auger Up Bigger Profits with KOYKER Super Augers

SUPER 105 Big . . . high-capacity industrial type auger for the farm. Has new 10" Super-Rib tube with special design that gives more space for large volume grain moving. Handles up to 6250 bu. per hour. Bottom-end drive enclosed in oil bath for minimum maintenance . . . long life. Super-105 is extendable from 52' to 72'. This bonus reach and height will allow your customers to reach most farm bins.

SUPER 85 Built for hard work, Super-85 has unique Super-Rib auger tube with effective diameter of 8½ inches . . . larger than any 8" auger on the market. Can handle up to 3500 bu. per hour. Powerful lower-end drive completely enclosed in oil. Super-85 available in 8 lengths from 33' to 68'. Heavy trussed-girder undercarriage engineered from high tensile steel tubing. Complete accessories available including Swing-A-Way hopper.

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8N, 1952 (Good).....1350
850, 1956 (Good).....1750
801, 1954 (Good).....1825*
800, 1954 (Fair).....1500
8N, 1952 (Fair).....1175
8N, 1951 (Good).....1320
9N, 1946 (Fair).....1120
9N, 1944 (Good).....920
9N, 1943 (Fair).....850
9N, 1942 (Fair).....750

INTERNATIONAL HARVESTER TRACTORS

1468 diesel, 1972 (Good).....9300
1466 diesel, 1971 (Fair).....9900
1456 diesel, 1969 (Fair).....8000
1256 diesel, 1967 (Fair).....7450
1256 diesel, 1967 (Fair).....6150
1086 diesel, 1977 (Excellent).....18,750*
1026 diesel, 1970 (Fair).....6800*
2500-A, 1969 (Fair).....2775
2400, 1973 (Good).....6300*
2300, Idr., 1970 (Good).....4000*
856 diesel, 1968 (Rough).....3600*
806 diesel, 1965 (Good).....5050*
806, 1965 (Fair).....3000
806, 1964 (Fair).....2400*
766 diesel, 1973 (Good).....9000*
706, 1966 (Fair).....3200*
706, 1965 (Fair).....2450*
706, 1964 (Good).....3575
706, 1964 (Fair).....2700*
706 diesel, 1963 (Fair).....2600*
656, 1965 (Fair).....2950
560, 1963 (Fair).....1425
560 diesel, 1960 (Good).....2575
560, 1960 (Fair).....1575*
560, 1959 (Fair).....2275
460 diesel, 1960 (Fair).....1410
460, 1961 (Fair).....1375
450, Idr., 1957 (Fair).....1510
400, (Rough).....685
340, Idr., 1959 (Fair).....960
300, 1955 (Fair).....830
300, 1955 (Rough).....800
M,.....950
Sup. M, 1953 (Rough).....730
M, 1951 (Fair).....700
M, 1949 (Fair).....655
M, 1947 (Fair).....700
M, 1942 (Rough).....625
140, 1979 (Excellent).....4400*
140, cult., 1966 (Fair).....2425
130, cult., 1958 (Fair).....1210
130, 1956 (Fair).....1200
Sup. A, cult., 1950 (Fair).....1000*
Sup. A, cult., 1947 (Fair).....1000
A,.....590
A, cult., 1945 (Fair).....550
Sup. C, 1952 (Fair).....950
Sup. C, mo., 1950 (Fair).....700
C, mo., 1950 (Fair).....700
154, 1964 (Fair).....1825
154, bid. mo.,.....1625
154, mo., 1964 (Fair).....1625
154, mo., 1964 (Fair).....1500*
Cub, mo., 1959 (Fair).....1050

MASSEY-FERGUSON TRACTORS

1155 diesel, 1975 (Rough).....9000*
265, 1979 (Excellent).....7400*
230, 1979 (Excellent).....5400*
180, 1968 (Fair).....4800*
180 diesel, 1970 (Fair).....3600*
180, 1966 (Fair).....3400*
165, 1973 (Good).....3200
165 diesel, 1970 (Fair).....3150
165, 1969 (Fair).....3000*
150, 1970 (Rough).....2425*
135, 1969 (Fair).....4000*
135 diesel, 1969 (Fair).....3525
Sup. 90, (Rough).....885
65 diesel, 1960 (Fair).....1750
65, 1960 (Rough).....1100*
50, 1958 (Fair).....1700
35, Idr., 1960 (Rough).....2000*
35 diesel, 1959 (Fair).....1700*
35, Idr., 1959 (Fair).....1510

MINNEAPOLIS-MOLINE TRACTORS

G1050 diesel, 1970 (Rough).....3750*
G1000 Vista, 1969 (Rough).....3100*

OLIVER TRACTORS

1900 diesel, 1961 (Fair).....3300*
1850 diesel, 1965 (Fair).....4250*
1800, 1961 (Fair).....2300*
1755, 1970 (Good).....4400*
1750, 1967 (Fair).....3700*
1650 diesel, 1969 (Fair).....3350*
1600, 1964 (Fair).....1975
880, 1960 (Fair).....810
770 diesel, 1959 (Fair).....675
550, 1963 (Good).....1480
88, 1956 (Fair).....700*
55, 1955 (Fair).....910

WHITE TRACTORS

4-150, 1972 (Fair).....11,800*
2-105, 1973 (Excellent).....9250

NOTES

Prices reported are for individual sales at wholesale on "as is," "cash and carry" basis.
Prices reported are NOT averages.

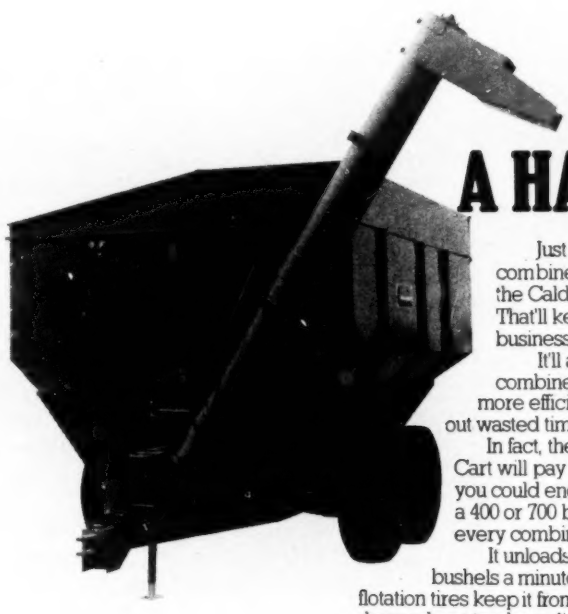
Condition classifications: EXCELLENT means—Engine: in perfect condition, 400 to 600 hours of use; Rubber: 80% tread remaining, no breaks or cracks; Paint: original and bright; General Appearance: excellent.

GOOD means—Engine: good running condition; Rubber: 70% tread remaining, no breaks or cracks; Paint: original paint or a good repaint job; General Appearance: good over-all.

FAIR means—Engine: possibly in need of a minor overhaul to restore; Rubber: 60% tread remaining, some cracking evident in side walls; Paint: only fair, weathered and some rust apparent; General Appearance: worn, some dents, minor parts such as gage covers missing or broken.

ROUGH means—Engine: obviously in need of a major overhaul; Rubber: smooth; Paint: scarred, weathered, rusty, needs painting urgently; General Appearance: dents, ruptures, broken parts, loose wires, some components such as lights broken, missing or inoperative.

DEMONSTRATOR means—used for demonstrating only and in practically new condition.



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It'll also make their combines operate 25% more efficiently by cutting out wasted time, fuel and wear.

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July 15, 1980
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FARM EQUIPMENT SHOWS, CONVENTIONS, MEETINGS, 1980–1981

Complete listings start on page 32

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P.O. Box 12901
Overland Park, Kan. 66212
(a suburb of Kansas City, Mo.)
Telephone (913) 888-4664
Telex: 42-4156; Answerback-Intertec OLPK

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ADMINISTRATION
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IMPLEMENT & TRACTOR (USPS 491-720) (with which is combined Farm Implement News) is published twice monthly except in January and March, when third issues are published, and in July and December, when one issue only is published, by INTERTEC PUBLISHING CORP., 9221 Quivira Rd., Overland Park, Ks. 66212 (a suburb of Kansas City, Mo.).

Subscription information: Implement & Tractor is edited for persons in the farm and industrial equipment industry who function in the areas of retail sales and service, distribution sales and service, marketing, engineering, financing, manufacturing and general management. Subscription prices to qualified subscribers: U.S. and Canada, one year—$10, two years—$15; elsewhere, one year—$13; two years—$21. Subscription prices to all others: U.S. and Canada, one year—$30; two years—$60; elsewhere, one year—$36, two years—$70. Single copies, $2, except Annual Statistical Number, $4; Product File issue, $5; Red Book issue, $6. Adjustment necessitated by subscription termination at single copy rate. Extra charges for service on back issues. Allow 6-8 weeks for change of address and new subscriptions.

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July 15, 1980 • Vol. 95 • No. 15

Implement & Tractor

The Business Magazine of the Farm and Industrial Equipment Industry

in this issue...

10: **Three Dealers Talk About Sales Management.** Many dealers gradually shift over from handling all the sales themselves to directing the sales activities of others. But how well do they learn this function? Here's what three veteran dealers say on the subject.

14: **What Are You Planning for Your Centennial?** This Virginia dealership decided to mark the occasion with a booklet and a special open house. Here's how they went about preparing for it.

22: **The In-House Computer System Brim Tractor Designed.** Bill Brim has the ultimate resource—sons who know both the implement business and computers. The in-house computer system they designed for this dealership's two stores led to a new business, Dealer Information Systems Corp.

30: **International Harvester Introduces "Early Riser" Planter.** IH's 800 series Cyclo-Air and plate-type versions aim at a bigger slice of the hard-to-track row-crop planter market.

32: **Conventions, Meetings, Shows, 1980-1981.** The cover photo, taken at the National Farm Machinery Show last February in Louisville, reminds us that the farm equipment industry will soon be moving into its cycle that starts with the big outdoor Corn Belt shows and runs through the following spring.

56: **Where Are We With Automatic Guidance?** Frank Buckingham reports on the prevailing attitudes—not all in agreement—and on some recent research.

DEPARTMENTS

What's Ahead	4	Auction Prices	72
Retail Sales of Wheel Tractors	18	New Literature	74
News Briefs	58	Industry In Motion	76
What's New	61	Farm Equipment Patents	77
Retail Sales of Selected Farm Equipment	66	Classified Ads	80
		Index to Advertisers	82

Controlled circulation postage paid at Shawnee Mission, Ks. 66201.
Postmaster: Return Form 3579 to Implement & Tractor, P.O. Box 12901, Overland Park, Ks. 66212.

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what's ahead...

I&T SINCE 1886

July 15, 1980

FARM EQUIPMENT MANUFACTURERS, after suffering a severe decline in April retail sales, made a better showing in the month of May, according to the Farm & Industrial Equipment Institute's flash report. Tractor sales in April had fallen off 47 per cent and for the year were down 29 per cent. May tractor sales were off 15 per cent from May, 1979, and all manufacturers were pushing to increase sales by offering strong incentives. The flash report:

Unit Retail Sales

	May			January-May		
Equipment	1980	1979	Pct. Change	1980	1979	Pct. Change
Farm Wheel Tractors						
2-wheel drive,						
40-100 hp	5,606	5,797	- 3.3	23,967	29,898	-19.8
Over 100 hp	4,266	5,435	-21.5	20,953	32,348	-35.2
Total 2-wheel drive	9,872	11,232	-12.1	44,920	62,246	-27.8
4-wheel drive	734	1,231	-40.4	4,237	4,938	-14.2
Total Tractors	10,606	12,463	-14.9	49,157	67,184	-26.8
Combines, S-P	931	945	- 1.5	5,600	6,045	- 7.4
Balers*	1,067	1,531	-30.3	3,220	4,739	-32.1
Forage Harvesters**	485	491	- 1.2	2,007	1,645	+22.0
Mower-Conditioners	1,723	2,661	-35.2	4,961	6,927	-28.4

*Bales under 200 lbs. **Shear-bar type

FORECAST FOR 1980 SALES OF INDUSTRIAL EQUIPMENT, as delivered last month at the meeting of the FIEI's Industrial & Construction Equipment Div., left little room for optimism. The consensus outlook sees 1980 results, compared with those of 1979, thus (Canadian estimates in parentheses): Industrial wheel tractors--down 14% (down 10%); rough-terrain forklifts--down 15% (down 8%); skid-steer loaders--down 18% (down 5%); crawler tractors under 90 hp--down 17% (down 11%); crawler tractors 90 hp and over--down 14% (down 8%); crawler loaders under 90 hp--down 16% (down 8%); crawler loaders 90 hp and over--down 22% (down 13%); wheel log skidders, 4WD, articulated--down 22% (down 12%); backhoes--down 19% (down 13%).

TRACTOR DEVELOPMENT ENGINEERS in the U.S. are said to be studying air-cooled diesel engines as a means of increasing fuel efficiency. According to USDA research on prices farmers are currently paying for production inputs, the average outlay for diesel fuel rose from 60.5 cents a gallon as of May 15, 1979, to $1.00 twelve months later. LP-gas, meanwhile, rose in cost from 39.1 cents to 61.8 cents.

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RETAIL SALES OF WHEEL TRACTORS*

(In Units)

	Total Wheel Tractors† Mar., 1979 Farm	Mar., 1979 Non-Farm	Mar., 1980 Farm	Mar., 1980 Non-Farm	Cumulative for Jan.-Mar., 1979 — Farm Type — 2-Wheel Drive	4-Wheel Drive	Total Farm	Non-Farm	Cumulative for Jan.-Mar., 1980 — Farm Type — 2-Wheel Drive	4-Wheel Drive	Total Farm	Non-Farm
Alabama	363	67	291	49	839	14	853	149	666	28	694	108
Alaska	1	1	2	.....	2	....	2	9	3	.....	3	2
Arizona	79	72	69	36	205	28	233	170	217	22	239	132
Arkansas	469	51	389	49	998	61	1,059	109	842	113	955	132
California	461	367	480	319	1,084	83	1,167	895	1,039	72	1,111	710
Colorado	135	72	118	56	232	47	279	147	214	49	263	166
Connecticut	14	22	10	17	42	.....	42	56	40	.....	40	51
Delaware	35	4	15	2	62	7	69	12	40	3	43	7
Florida	203	185	195	121	502	17	519	418	563	20	583	325
Georgia	482	100	352	58	1,251	11	1,262	237	899	20	919	112
Hawaii	3	10	2	5	19	.....	19	24	12	.....	12	34
Idaho	122	27	107	15	227	334	261	46	236	21	257	39
Illinois	807	141	387	78	1,806	165	1,971	367	1,327	182	1,509	196
Indiana	490	72	299	45	1,048	98	1,146	183	688	127	815	127
Iowa	1,103	50	497	33	2,564	130	2,694	108	1,681	156	1,837	70
Kansas	568	30	341	42	1,057	126	1,183	77	721	129	850	98
Kentucky	594	71	364	38	1,213	20	1,233	143	936	22	958	79
Louisiana	292	102	332	74	653	40	693	198	669	86	755	151
Maine	14	13	8	19	43	.....	43	29	35	2	37	31
Maryland	75	48	78	32	203	9	212	102	161	17	178	66
Massachusetts	7	28	5	26	27	.....	27	70	25	.....	25	64
Michigan	246	138	164	101	648	53	701	279	506	48	554	213
Minnesota	688	84	411	57	1,320	143	1,463	154	846	141	987	104
Mississippi	435	112	411	28	982	37	1,019	230	913	88	1,001	77
Missouri	665	87	407	61	1,425	49	1,474	191	968	78	1,046	154
Montana	135	14	97	17	200	91	291	40	227	58	285	46
Nebraska	636	23	429	19	1,426	70	1,496	47	1,042	114	1,156	52
Nevada	16	21	13	14	41	1	42	52	23	4	27	33
New Hampshire	3	13	10	8	20	.....	20	36	24	.....	24	18
New Jersey	45	54	29	45	82	2	84	126	68	.....	68	116
New Mexico	58	43	26	22	125	9	134	75	86	7	93	53
New York	205	117	156	69	529	17	546	263	442	19	461	192
North Carolina	574	110	338	59	1,251	22	1,273	266	802	13	815	163
North Dakota	336	24	175	8	518	230	748	56	331	169	500	17
Ohio	482	126	385	87	1,101	68	1,169	311	893	93	986	204
Oklahoma	348	68	237	64	672	55	727	143	534	78	612	139
Oregon	96	41	91	63	247	13	260	115	257	14	271	127
Pennsylvania	218	120	217	98	509	7	516	304	491	16	507	271
Rhode Island	3	6	.....	9	5	.....	5	15	4	.....	4	15
South Carolina	188	47	164	32	549	8	557	130	400	15	415	79
South Dakota	301	16	177	14	610	64	674	39	397	66	463	27
Tennessee	531	129	308	54	1,136	24	1,160	260	754	25	779	100
Texas	960	441	732	411	2,404	97	2,501	953	2,316	152	2,468	907
Utah	50	35	49	47	122	2	124	73	102	3	105	94
Vermont	27	3	14	1	61	1	62	9	46	.....	46	3
Virginia	286	91	199	84	608	4	612	198	503	7	510	181
Washington	171	99	166	40	370	33	403	208	370	29	399	96
West Virginia	45	24	21	19	104	.....	104	49	77	.....	77	31
Wisconsin	577	85	400	65	1,248	42	1,290	153	925	52	977	129
Wyoming	29	26	19	25	102	4	106	54	55	7	62	48
U.S. Government	3	243	2	39	9	.....	9	269	26	.....	26	251
Miscellaneous‡	.....	145	33	8	10	.....	10	254	117	.....	117	166
TOTAL	**14,624**	**4,118**	**10,221**	**2,782**	**32,511**	**2,036**	**34,547**	**8,901**	**25,559**	**2,365**	**27,924**	**6,806**

Data released June 6, 1980, Farm & Industrial Equipment Institute.

*Figures do not include garden tractors, motor tillers or contractors off-highway types. Report includes units marketed by these firms: Allied Farm Equip. (Leyland, Satoh); Allis-Chalmers; Belarus; J I Case; Deere; Deutz; Ford; International Harvester; Long; Massey-Ferguson; R. M. Wade (Satoh); Steiger; Versatile; and White.

†The monthly sales are those reported for that month only. The cumulative totals are subject to revisions reflecting updating in the basic sales data.

‡Sales reported as miscellaneous are retail sales which cannot be classified by state of as U.S. Government. They include sales and dispositions that do not go through usual marketing channels such as gifts to non-profit organizations, intra-plant or company transfers, etc.

RETAIL SALES OF SELECTED FARM EQUIPMENT—Jan.-Mar. 1979 and 1980 (1)

(In Units)

	Combines Self-Propelled		Corn Heads		Hay Balers (2)		Windrowers Self-Propelled — Power Units		Windrowers Self-Propelled — Total Heads		Grinder-Mixers		Shear-Bar Forage Harvesters (3)	
	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
Alabama	39	32	15	6	18	15	.....	1	.....	.....	90	58	5	1
Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arizona	5	9	.....	.....	2	5	10	13	11	19	4	3	2	1
Arkansas	70	62	1	.....	41	28	.....	.....	.....	.....	19	33	.....	2
California	9	50	4	4	37	26	56	63	63	68	6	.....	12	10
Colorado	19	31	7	14	32	23	33	17	34	19	29	35	12	9
Connecticut	.....	.....	.....	.....	5	6	.....	.....	.....	.....	.....	.....	3	4
Delaware	2	5	1	3	1	1	.....	.....	.....	.....	4	5	1	1
Florida	12	9	13	4	13	14	.....	.....	.....	.....	21	19	.....	7
Georgia	60	47	38	40	21	9	.....	1	.....	1	182	126	6	7
Hawaii	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Idaho	21	22	3	3	44	33	22	37	22	35	22	18	2	6
Illinois	345	381	335	385	44	34	.....	2	.....	2	279	197	43	36
Indiana	278	266	214	265	65	27	.....	4	.....	4	253	148	27	30
Iowa	445	499	286	453	66	42	26	12	25	12	922	566	61	82
Kansas	178	256	28	35	75	32	72	46	72	44	135	101	15	29
Kentucky	66	42	33	26	57	27	.....	1	.....	1	164	157	12	15
Louisiana	41	36	.....	.....	18	1	.....	.....	.....	.....	8	4	.....	2
Maine	1	.....	.....	.....	8	2	.....	.....	.....	.....	.....	.....	6	3
Maryland	15	22	13	16	17	10	1	1	1	1	16	12	10	9
Massachusetts	.....	.....	.....	.....	4	3	.....	.....	.....	.....	1	.....	.....	1
Michigan	55	86	44	70	47	24	7	3	7	3	98	82	41	50
Minnesota	252	234	140	187	146	80	100	41	100	41	376	250	83	74
Mississippi	69	59	1	.....	20	7	.....	.....	.....	.....	25	13	3	4
Missouri	147	173	77	94	77	48	12	8	12	8	274	232	21	14
Montana	29	37	.....	1	40	31	33	43	33	43	30	25	2	7
Nebraska	174	297	107	214	41	22	67	45	65	42	281	244	23	36
Nevada	.....	.....	.....	.....	4	8	7	6	6	7	.....	2	1	1
New Hampshire	.....	.....	.....	.....	5	5	.....	.....	.....	.....	1	.....	3	4
New Jersey	11	3	5	5	13	.....	.....	.....	.....	.....	9	3	.....	3
New Mexico	.....	4	.....	2	17	9	13	8	13	8	8	3	.....	.....
New York	17	23	18	34	87	62	8	8	8	9	41	47	57	74
North Carolina	66	40	43	35	29	24	2	.....	2	.....	94	71	11	9
North Dakota	141	139	4	6	6	8	61	33	62	31	66	53	11	7
Ohio	229	215	170	146	115	45	2	2	2	2	233	166	33	34
Oklahoma	56	109	.....	2	172	58	16	12	18	13	71	53	4	5
Oregon	13	18	.....	3	39	40	36	14	35	16	18	12	8	3
Pennsylvania	32	35	28	44	159	90	11	5	11	7	138	106	52	82
Rhode Island	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Carolina	38	35	19	11	9	6	.....	.....	.....	.....	46	26	1	3
South Dakota	56	77	36	43	11	8	86	41	87	42	158	149	22	28
Tennessee	83	52	21	24	96	44	.....	1	.....	1	115	91	16	10
Texas	60	110	22	19	173	48	10	9	10	8	106	85	11	6
Utah	3	4	.....	1	26	19	10	15	11	15	35	16	4	7
Vermont	.....	.....	.....	.....	15	7	.....	.....	.....	.....	1	1	10	14
Virginia	29	21	28	14	63	45	.....	3	.....	3	61	38	16	17
Washington	48	41	3	2	36	26	16	22	14	19	11	10	7	9
West Virginia	1	.....	2	.....	28	14	.....	.....	.....	.....	11	11	6	.....
Wisconsin	29	69	48	100	297	202	42	46	41	46	239	189	167	240
Wyoming	4	7	2	1	28	12	18	12	18	13	13	4	4	2
U.S. Government	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miscellaneous (4)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TOTAL	**3,248**	**3,657**	**1,809**	**2,312**	**2,368**	**1,332**	**777**	**575**	**783**	**583**	**4,714**	**3,464**	**834**	**1,000**

Date released June 6, 1980, Farm & Industrial Equipment Institute.

(1) Includes revisions for prior months.

(2) For making bales of under 200 lbs.

(3) Pull-type, mounted, self-propelled.

(4) Sales reported as miscellaneous are retail sales which cannot be classified by state or as U.S. Government. They include sales and dispositions that do not go through usual marketing channels such as gifts to non-profit organizations, intra-plant or company transfers, etc.

Mower Conditioners All Types		Manure Spreaders Conveyor-Type		
1979	1980	1979	1980	
21	9	5	8	Alabama
.....	.....	.....	.....	Alaska
.....	2	3	3	Arizona
58	45	36	35	Arkansas
8	3	22	12	California
15	5	24	22	Colorado
14	4	32	24	Connecticut
2	2	27	34	Delaware
12	8	9	8	Florida
28	30	17	17	Georgia
1	.....	1	.....	Hawaii
9	15	47	31	Idaho
100	62	349	220	Illinois
103	53	268	159	Indiana
220	112	887	543	Iowa
122	75	84	73	Kansas
141	127	109	92	Kentucky
11	10	5	5	Louisiana
12	4	26	23	Maine
32	14	81	85	Maryland
5	7	31	19	Massachusetts
72	47	280	270	Michigan
168	117	620	431	Minnesota
13	8	6	5	Mississippi
253	208	145	108	Missouri
7	16	2	7	Montana
87	83	141	151	Nebraska
.....	2	2	5	Nevada
3	4	6	18	New Hampshire
9	9	13	21	New Jersey
2	.....	1	2	New Mexico
103	100	541	478	New York
47	36	54	60	North Carolina
11	7	13	20	North Dakota
208	101	407	324	Ohio
151	68	17	20	Oklahoma
24	29	26	29	Oregon
177	122	538	484	Pennsylvania
1	1	.....	.....	Rhode Island
18	11	10	14	South Carolina
15	13	66	65	South Dakota
112	80	70	60	Tennessee
175	124	52	50	Texas
7	11	33	36	Utah
21	17	79	66	Vermont
76	95	81	88	Virginia
13	13	54	42	Washington
33	14	28	16	West Virginia
352	252	985	710	Wisconsin
1	3	10	8	Wyoming
.....	.....	.....	.....	U.S. Government
.....	.....	.....	.....	Miscellaneous
3,073	2,178	6,343	5,001	TOTAL

AUCTION PRICES OF USED EQUIPMENT

An exclusive I&T monthly report of actual prices paid recently at these leading national wholesale auctions.

Asterisk beside tractor price indicates highest bid offered on tractors which were not sold.

YODER & FREY, INC.
Archbold, Ohio
(June 10, 1980)

ALLIS-CHALMERS TRACTORS

7030 diesel, 1976 (Good) 8500*
220 diesel, 1972 (Fair) 4700*
200 diesel, 1970 (Good) 8500
XT190, 1968 (Fair) 3850
D21, 1968 (Rough) 5100*
D19, (Rough) 1010*
D17, 1966 (Good) 1500*
D14, 1962 (Good) 985
WD45, 1956 (Good) 840
WD, 1952 (Good) 600
B, mo., 1955 (Fair) 785
C, 1951 (Fair) 725*

CASE TRACTORS

1170 diesel, 1973 (Fair) 6900*
1070, 1973 (Rough) 6700*
1030, 1965 (Rough) 2700*
930, 1964 (Good) 3400*
730, 1963 (Fair) 2100*
730, 1959 (Rough) 1650*
600, 1960 (Rough) 775
430, ldr., 1964 (Fair) 2125
400 diesel, 1958 (Fair) 1000

JOHN DEERE TRACTORS

4440 diesel, 1979 (Excellent) 23,000*
4020, 1966 (Fair) 4400*
4020 diesel, 1965 (Good) 5700*
3020 diesel, 1968 (Fair) 4300*
3020, 1966 (Fair) 3575
3020, 1966 (Fair) 3325
3010 diesel, 1961 (Fair) 3600*
3010, 1960 (Fair) 3525
2510 diesel, 1965 (Fair) 3800
2510, 1967 (Fair) 2550*
2020 diesel, 1967 (Fair) 3000
2010, 1961 (Rough) 1425
1120 diesel, 1970 (Fair) 2000
1020, 1967 (Rough) 2700*
720 diesel, 1957 (Fair) 2100
720 diesel, 1956 (Rough) 1050
630, 1959 (Fair) 2225*
70, 1954 (Good) 975
70, 1954 (Good) 975
70, 1954 (Fair) 925
70 diesel, 1954 (Fair) 850
520, 1957 (Fair) 1075*

DAVID BROWN TRACTORS

995 diesel, 1976 (Good) 3825
885 diesel (New) 4400*

DEUTZ TRACTOR

40-06, 1967 (Good) 3150

FERGUSON TRACTORS

30, 1950 (Rough) 1075*
20, 1946 (Fair) 1175
20, 1947 (Fair) 1100

FORD TRACTORS

8000, 1970 (Good) 4600
6000, (Rough) 1000*
5000, 1970 (Fair) 3325
4500, backhoe, ldr., (Good) 7950
4500, backhoe, ldr., (Fair) 4950*
4500, backhoe, ldr., (Fair) 4600*
4000, Select-O-Speed, ldr., 1961 (Fair) 2300*
4000, 1961 (Good) 2175
4000 Select-O-Speed, 1960 (Good) 1650
4000, 1960 (Fair) 1375
3400, backhoe, ldr., (Good) 5700
3000, 1970 (Fair) 2750*
2000, 1966 (Fair) 2675
900, 1955 (Rough) 1075
640, 1955 (Fair) 1590
600, 1956 (Fair) 1635
Jub., 1953 (Fair) 1725*
8N, ldr., 1951 (Fair) 1600
8N, 1950 (Good) 1100
8N, ldr., 1949 (Rough) 925*
9N, ldr., 1948 (Fair) 1100*
9N, 1946 (Fair) 900
9N, 1946 (Fair) 810
9N, 1945 (Fair) 770

INTERNATIONAL HARVESTER TRACTORS

3388 diesel, 4-W-D, (New) ... 27,000*
1466 diesel, 1975 (Fair) 7250*
1466 diesel, 1973 (Good) 9825
1466 diesel, 1972 (Good) 7900
1066 diesel, 1978 (Excellent) 17,000*
1026, 1973 (Rough) 5700*
966 diesel, 1973 (Good) 8500*
966 diesel, 1973 (Good) 7400*
856, 1967 (Fair) 3700*
806 diesel, 1968 (Fair) 4900*
806, 1965 (Fair) 4000*
806 diesel, 1964 (Fair) 2600*
806, 1964 (Fair) 2400*
766 diesel, 1972 (Good) 8500*
706, 1964 (Fair) 2000*
706, 1963 (Good) 3500
656 Hydro, 1968 (Good) 4450*
656, 1967 (Good) 3275
656, 1967 (Fair) 2950*
560 diesel, 1961 (Good) 2100*
560, 1960 (Fair) 1450*
560, 1960 (Fair) 1325
504, 1962 (Fair) 2150
450 diesel, 1957 (Rough) 675
350, 1957 (Rough) 900
340, 1960 (Fair) 1200*
Sup. M, 1953 (Fair) 985
M, 1950 (Fair) 875
M, 1950 (Fair) 875
M, 1950 (Fair) 825*
M, 1950 (Rough) 580
M, 1950 (Fair) 760
H, 1947 (Fair) 520
Sup. A, plow, cult., 1953 (Fair) 1250
C, cult., 1950 (Good) 950
C, cult., 1950 (Fair) 725
C, mo., 1949 (Fair) 720
154, mo., 1964 (Fair) 1860
140, (New) 4250*
Cub, cult,., plt., 1960 (Fair) 1225
Cub, bld., 1959 (Fair) 1050*
Cub, mo., 1956 (Fair) 950*

MASSEY-FERGUSON TRACTORS

2135, ldr., 1966 (Fair) 1975
1155 diesel, 1974 (Fair) 7250*
1080 diesel, 1970 (Rough) 3500*
265, (New) 8200*
230, (New) 5100*
180, 1970 (Fair) 4000*
180, 1970 (Fair) 3200*
180, 1970 (Fair) 3100*
165, 1967 (Good) 3050
165, 1965 (Fair) 2550
150, 1970 (Rough) 2250
135, 1965 (Rough) 3300*
135, 1964 (Fair) 2800*
135 diesel, ldr., 1963 (Rough) 2750
65, 1964 (Good) 2625
65 diesel, 1961 (Good) 2100*
65, 1961 (Fair) 1400*
65, 1960 (Fair) 1725
50, 1960 (Fair) 1975

MINNEAPOLIS-MOLINE TRACTORS

G1050 diesel, 1970 (Rough) 3500*
G1000, 1965 (Rough) 2950*

OLIVER TRACTORS

2150, 1967 (Fair) 7500*
1900 diesel, 1960 (Fair) 3200
1850 diesel, 1967 (Fair) 4200
1800, 1961 (Fair) 2500
1800, 1962 (Fair) 1700
1755, 1971 (Good) 4600*
1750, 1966 (Fair) 4550
1650 diesel, 1971 (Fair) 5400
1650 diesel, 1971 (Fair) 5400
1600, 1961 (Fair) 2700*
88, 1956 (Fair) 1025

WHITE TRACTOR

4-150 diesel, 4-W-D, 1975 (Fair) 10,700*

JONES FARM EQUIPMENT CO.
Dothan, Alabama
(June 10, 1980)

ALLIS-CHALMERS TRACTORS

7000 diesel, 1976 (Good) 7200
5040 diesel, 1976 (Good) 3350*

G, cult., plt., plow, 1951 (Good) 1000

CASE TRACTORS

580 D-B, ldr., backhoe, 1972 (Good) 7000
580 D-B, ldr., backhoe, 1971 (Good) 7550

DEUTZ TRACTOR

10006 diesel, 1978 (Excellent) 8700*

DAVID BROWN TRACTORS

995 diesel, 1975 (Excellent) 3650*
885 diesel, 1972 (Good) 2500*
880 diesel, 1967 (Fair) 1000*

MASSEY-FERGUSON TRACTORS

2500, forklift, (Good) 4750
1085 diesel, 1973 (Good) 6100*
285 diesel, 1977 (Excellent) 7700
285 diesel, 1975 (Good) 6900
265 diesel, 1975 (Good) 6000*
245 diesel, 1977 (Good) 4200
180 diesel, 1967 (Good) 3150
175 diesel, 1973 (Rough) 2000
175 diesel, 1971 (Good) 4000
175 diesel, 1970 (Fair) 3325
175 diesel, 1969 (Good) 3900*
175 diesel, 1968 (Fair) 3100
165 diesel, 1973 (Fair) 2800*
165 diesel, 1971 (Fair) 3300
165 diesel, 1968 (Good) 3900*
165 diesel, 1967 (Good) 3550*
165 diesel, 1968 (Good) 3200*
165 diesel, 1968 (Rough) 1850
165 diesel, 1966 (Fair) 2900*
165 diesel, 1966 (Good) 3600
135 diesel, 1973 (Rough) 1900
135 diesel, 1973 (Fair) 2500
135 diesel, 1972 (Excellent) 3600*
135 diesel, 1969 (Good) 3150
135 diesel, 1969 (Good) 3200*
135 diesel, 1967 (Good) 2475*
135 diesel, 1967 (Good) 2725
135 diesel, 1966 (Good) 3200*
135, 1966 (Good) 2450
65 diesel, 1964 (Good) 1850
65 diesel, 1963 (Good) 1725*
65 diesel, 1963 (Good) 2200
65 diesel, 1962 (Fair) 1500
65 diesel, 1962 (Fair) 1750
35 diesel, 1961 (Good) 2150*
35, 1960 (Fair) 1450
35, 1960 (Good) 2200
35, 1956 (Good) 1400*
20 D-C, 1978 (Good) 7300
TO20, 1950 (Fair) 775

FORD TRACTORS

7000 diesel, cab, 1973 (Good) 6000
5000 diesel, 1971 (Fair) 3600*
5000 diesel, 1969 (Good) 4900
5000 diesel, 1971 (Good) 5000
5000 diesel, 1969 (Good) 4150
5000 diesel, 1968 (Good) 3700
5000 diesel, 1966 (Rough) 3300
5000 diesel, Select-O-Speed, 1966 (Rough) 1800
5000 diesel, 1966 (Fair) 3000
4500 diesel, ldr., backhoe, 1971 (Good) 4200
4000 diesel, 1971 (Good) 4250*
4000 diesel, 1968 (Good) 4200*
3000 diesel, 1971 (Fair) 2750
3000 diesel, 1968 (Excellent) 3800
3000 diesel, 1967 (Good) 3250
3000 diesel, 1967 (Good) 3250
3000 diesel, 1967 (Good) 2950
2000 diesel, 1967 (Good) 2300*
850, 1956 (Good) 1600
841 diesel, 1958 (Fair) 1250
841 diesel, 1958 (Good) 1500
841 diesel, ldr., 1958 (Fair) 1250*
841, 1958 (Good) 1600
641, 1960 (Good) 1850*
641, 1959 (Good) 1800*
641, 1959 (Good) 1875
640, 1957 (Excellent) 2100
640, 1955 (Good) 1475
Dexta, 1959 (Good) 1500*
NAA, 1954 (Good) 1675*
8N, 1951 (Fair) 1000*
8N, 1951 (Good) 1400
8N, 1951 (Good) 1375
8N, 1950 (Fair) 1025
8N, 1948 (Rough) 700
8N, 1948 (Rough) 725*
8N, 1948 (Fair) 875
8N, 1948 (Good) 1000*
8N, 1948 (Fair) 850*
8N, 1948 (Good) 1050*

INTERNATIONAL HARVESTER TRACTORS

2500 diesel, 1972 (Good) 3200
856 diesel, 1969 (Good) 4800*
664 diesel, 1972 (Good) 3500*
656 diesel, 1966 (Rough) 2500
574 diesel, 1972 (Good) 3600*
574 diesel, 1972 (Good) 3600*
574 diesel, 1972 (Fair) 3000*
544 diesel, 1969 (Fair) 2500
544 diesel, 1968 (Good) 3500*
504 diesel, 1967 (Good) 1750
464 diesel, 1975 (Rough) 1500*
460, 1969 (Good) 1100*
424 diesel, 1956 (Good) 2300
B414 diesel, 1967 (Rough) 450
404, 1964 (Good) 1150
364 diesel, 1976 (Good) 3450
354 diesel, 1973 (Good) 2950
Sup. H, 1953 (Good) 475*
H, ldr., plow, 1944 (Rough) 160
H, 1942 (Rough) 110
C, cult., plt., 1948 (Good) 725
140, 1967 (Good) 1400
Cub, cult., plt., plow, 1964 (Good) 2250
Cub, mo., 1963 (Good) 2000
Cub, mo., 1948 (Good) 1100
Cub, mo., 1948 (Good) 1000
Cub, 1948 (Rough) 600
Cub, cult., plow, plt., 1948 (Good) 900

JOHN DEERE TRACTORS

4020 diesel, 1965 (Good) 5850
4020 diesel, 1965 (Good) 5750
4010 diesel, 1963 (Rough) 2700*
3020 diesel, 1968 (Good) 4700*
3020 diesel, 1964 (Good) 4200
2840 diesel, 1976 (Good) 6700*
2510 diesel, 1966 (Good) 3800*
2020 diesel, 1970 (Good) 2900
2010, 1963 (Good) 1900*
520, 1957 (Fair) 800*
420, 1956 (Fair) 600
400 diesel, ldr., backhoe, 1969 (Good) 3050
40, 1953 (Good) 875

LONG TRACTOR

460 diesel, (Good) 4000*

NOTES
Prices reported are for individual sales at wholesale on "as is," "cash and carry" basis.
Prices reported are NOT averages.

Condition classifications: EXCELLENT means—Engine: in perfect condition, 400 to 600 hours of use; Rubber: 80% tread remaining, no breaks or cracks; Paint: original and bright; General Appearance: excellent.

GOOD means—Engine: good running condition; Rubber: 70% tread remaining, no breaks or cracks; Paint: original paint or a good repaint job; General Appearance: good over-all.

FAIR means—Engine: possibly in need of a minor overhaul to restore; Rubber: 60% tread remaining, some cracking evident in side walls; Paint: only fair, weathered and some rust apparent; General Appearance: worn, some dents, minor parts such as gage covers missing or broken.

ROUGH means—Engine: obviously in need of a major overhaul; Rubber: smooth; Paint: scarred, weathered, rusty, needs painting urgently; General Appearance: dents, ruptures, broken parts, loose wires, some components such as lights broken, missing or inoperative.

DEMONSTRATOR means—used for demonstrating only and in practically new condition.